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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/705,572	11/03/2000	Hsin-Pang Wang	RD-28,281	6670

6147 7590 10/04/2004

GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER	
ORTIZ RODRIGUEZ, CARLOS R	

ART UNIT	PAPER NUMBER
2125	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/705,572	WANG ET AL.
	Examiner	Art Unit
	Carlos Ortiz-Rodriguez	2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 August 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-45* is/are rejected.

7)☒ Claim(s) *6-8,18,19 and 44* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/5/02*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 6 objected to because of the following informalities: The term "process" seems to be "processing". Appropriate correction is required

2. Claims 7 and 8 objected to because of the following informalities: It is requested that the applicant spell out the acronym "CAD" so as to avoid any possible confusion as to the meaning of this term. Appropriate correction is required.

3. Claim 18 objected to because of the following informalities: The terms "ρ, Cp, A, B, C, γ, and T" are not in the equation as stated in the claim. Appropriate correction is required.

4. Claim 19 objected to because of the following informalities: The terms "α, Δz, vx, Δx, vy and Δy" are not in the equation as stated in the claim. Appropriate correction is required.

5. Claim 44 objected to because of the following informalities: The term "accordance with claim 42" seems to be "accordance with claim 43". Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 7-8, 11, 14-16, 18, 24-28, and 38-40 are rejected under 35 U.S.C. 112, second paragraph.

Claims 8 and 11 contain trademark/trade names. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe programs/software and, accordingly, the identification/description is indefinite.

Claim 7 recites the limitation "wherein importing a model". There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "said computer 16". There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites the limitation "the part design". There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation "said computer 16". There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "said part design". There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "said inputs". There is insufficient antecedent basis for this limitation in the claim.

Claim 18 recites the limitation "said time step". There is insufficient antecedent basis for this limitation in the claim.

Claim 24 recites the limitation "the temperature steps". There is insufficient antecedent basis for this limitation in the claim.

Claim 25 recites the limitation "the next temperature step". There is insufficient antecedent basis for this limitation in the claim.

Claim 26 recites the limitation "the temperature steps". There is insufficient antecedent basis for this limitation in the claim.

Claim 26-28 recites the limitation "the mold". There is insufficient antecedent basis for this limitation in the claim.

Claim 28 recites the limitation "the process". There is insufficient antecedent basis for this limitation in the claim.

Claim 38 recites the limitation "said database rheological degradation data". There is insufficient antecedent basis for this limitation in the claim.

Claim 39 and 40 recites the limitation "the viscosity ratio". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 34 and 45 are directed to non-statutory subject matter. It should be noted that claims 34 and 45 are interpreted to be computer programs. Description or expressions of a program are not physical "things". The descriptive material is not recorded on some computer-readable medium.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coe et al. U.S Patent No. 5,136,497 in view of Davidson U.S. Pub. No. 2002/0107676.

Regarding claims 1, 12-34 and 38-45 Coe et al. discloses a simulation system for generating a predicted performance for fabricated parts comprising: a computer (C8 L63-65)

coupled to a database (storage/memory) for computing part performance predictions for a respective material with a predetermined geometry (C6 L12-20 and C17 L10-14) under predetermined processing

conditions (C6 L20-24 and L38-41); and a mechanical degradation database for storing a plurality of mechanical degradation data for associated materials (C11 L55-67 and C12 L1-22).

Although Coe et al. discloses storing data regarding the deformation and flow of materials, Coe et al. (C12 L20-24) does not clearly specify rheological degradation data.

However to show that storing rheological data for associated materials is known in the art the Davidson references is presented. Davidson clearly discloses a rheological degradation database for storing a plurality of rheological degradation data for associated materials (P2 P0026 L15-21).

Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the above invention suggested by Coe et al. and combining it with the invention disclosed by Davidson. The results of this combination would lead to performance predictor for fabricated parts.

One of ordinary skill in the art would have been motivated to do this modification because it is well known in the art to enter data regarding the rheological degradation of a material in databases (collection of data arranged for ease of storage, retrieval, updating, searching and sorting by computerized means), as suggested by Davidson.

Regarding claims 2-4 and 37 Coe et al. in combination with Davidson disclose all the limitations of the base claims. Coe et al. in combination with Davidson further disclose a

simulation system wherein said materials are selected from the group consisting of polymer, metal and ceramic (Coe et al. C5 L34-38).

Regarding claims 5 Coe et al. in combination with Davidson disclose all the limitations of the base claim. Coe et al. in combination with Davidson further discloses a simulation system wherein a part geometry of an object to be fabricated is imported into said computer (Coe et al. C17 L3-16).

Regarding claims 6 and 36 Coe et al. in combination with Davidson disclose all the limitations of the base claims. Coe et al. in combination with Davidson further discloses a simulation system wherein said process conditions include filling time, mold temperature and melt temperature (Coe et al. C8 L55-66 and C1 L60-65).

Regarding claims 7 and 35 Coe et al. in combination with Davidson disclose all the limitations of the base claims. Coe et al. in combination with Davidson further discloses a simulation system wherein importing a model entails generating a CAD part model of a three-dimensional object and discretizing the part model (Coe et al. C6 L1-4 and C12 L37-47).

Regarding claims 8 and 11 Coe et al. in combination with Davidson disclose all the limitations of the base claims. Coe et al. in combination with Davidson further discloses a simulation system wherein said CAD design program is UnigraphicsTM or ProEngineerTm (Davidson P1 P007).

Regarding claims 9 and 10 Coe et al. in combination with Davidson disclose all the limitations of the base claims. Coe et al. in combination with Davidson further discloses a simulation system wherein the three-dimensional model is discretized by enveloping the model with a finite element mesh (Coe et al. C12 L37-47 and C11 L17-26).

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to performance predictor for fabricated parts:

a. U.S. Pat. No. 5,377,116 to Wayne et al., which discloses method and system for designing a cutting tool.

b. U.S. Pat. No. 6,259,960 to Inokuchi, which discloses part-inspecting system.

c. U.S. Pat. No. 6,768,928 to Nagasawa et al., which discloses mechanism component design support system.

The following publications are cited to further show the state of the art with respect to performance predictor for fabricated parts:

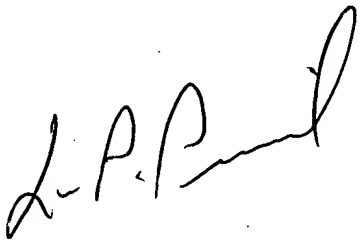
d. U.S. Pub. No. 2002/0156757 to Brown, which discloses electronic product design system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Ortiz-Rodriguez whose telephone number is

(703) 305-8009. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo P. Picard can be reached on (703) 308-0538. The central official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Carlos Ortiz-Rodriguez
Patent Examiner
Art Unit 2125

cror

September 28, 2004

LEO PICARD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100